

<b>Title</b>	<b>Demonstrate knowledge of motor industry engineering tasks</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	This unit standard is for people who wish to enter or are employed in the motor industry. People credited with this unit standard are able to demonstrate knowledge of: metals and composite materials commonly used in the motor industry; automotive fasteners; use of hand threading tools; and twist drills.
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<b>Classification</b>	Motor Industry > Motor Industry - Introductory Skills
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements.
- 2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; and any subsequent amendments and replacements.
- 3 Definitions  
*Company requirements* refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.  
*Service information* may include – technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of metals and composite materials commonly used in the motor industry.

**Performance criteria**

1.1 Uses of non-ferrous metals are identified.

Range aluminium, chromium, magnesium.

1.2 Uses of ferrous metals are identified.

Range may include – mild steel, high-strength steel, high-strength low-alloy steel, high-speed steel, high-tensile steel, boron steel.

1.3 Metal treatment processes are defined.

Range hardening, case hardening, tempering, annealing, normalising.

1.4 Uses of plastic or composite materials are identified.

Range may include – acrylonitrile butadiene styrene, nylon, polyethylene, polystyrene, thermoplastic polyurethane, acrylic, polyamide, carbon fibre.

**Outcome 2**

Demonstrate knowledge of automotive fasteners.

**Performance criteria**

2.1 Types of fasteners and their uses are identified.

Range may include – adhesives, bolts, lock wire, nuts, pins, plastic and metal body clips, rivets, rivnuts, screws, studs; evidence of six is required.

**Outcome 3**

Demonstrate knowledge of use of hand threading tools.

**Performance criteria**

3.1 Taps and dies are identified.

Range type of thread, size of thread.

3.2 Methods of cutting internal and external threads are described.

3.3 The use of thread inserts is described.

**Outcome 4**

Demonstrate knowledge of twist drills.

**Performance criteria**

- 4.1 Types of twist drills and their uses are identified.  
Range Morse taper, parallel shank.
- 4.2 Correct drill speeds are identified.
- 4.3 Cutting fluids are identified.

<b>Replacement information</b>	This unit standard replaced unit standard 21670.
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<b>Planned review date</b>	31 December 2022
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact MITO New Zealand Incorporated [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.